

1 1. A tissue fastener comprising
2 a shaft having a member disposed thereon for lodging
3 the shaft within the tissue, and
4 a tissue engaging head disposed at a proximal end of
5 the shaft,
6 a region of the shaft being relatively flexible to
7 render the head movable with respect to the shaft.

1 2. The tissue fastener of claim 1 wherein the
2 region comprises substantially an entire length of the
3 shaft.

1 3. The tissue fastener of claim 2 wherein the
2 region comprises flexible material.

1 4. The tissue fastener of claim 3 wherein the
2 flexible material comprises a mesh.

1 5. The tissue fastener of claim 1 wherein the shaft
2 comprises a mesh material, the member and the head being
3 molded onto the mesh.

1 6. The tissue fastener of claim 1 wherein the
2 member comprises at least one barb.

1 7. The tissue fastener of claim 1 wherein the shaft
2 comprises generally rigid material and the region comprises
3 a flexible joint between the shaft and the head.

1 8. The tissue fastener of claim 7 wherein the
2 flexible joint comprises a frangible section of the shaft,
3 and further comprising a flexible member extending between
4 the shaft and the head past the frangible section.

1 9. The tissue fastener of claim 8 wherein the
2 breakable section is defined by at least one opening
3 disposed through a wall of the shaft.

1 10. The tissue fastener of claim 8 wherein the
2 flexible member comprises a plurality of filaments.

1 11. The tissue fastener of claim 8 wherein the
2 flexible member comprises a flexible tube.

1 12. The tissue fastener of claim 8 wherein the
2 flexible member extends along substantially an entire length
3 of the shaft.

1 13. The tissue fastener of claim 8 wherein the
2 shaft and the head comprise an integral molded unit, the
3 flexible member being molded therewithin.

1 14. The tissue fastener of claim 1 made from
2 polymeric material.

1 15. The tissue fastener of claim 1 made from
2 bioabsorbable material.

1 16. The tissue fastener of claim 1 wherein the
2 shaft is hollow and defines an interior passage, the head
3 including an opening in communication with the passage.

1 17. The tissue fastener of claim 16 wherein the
2 passage is open at a distal end of the shaft.

1 18. The tissue fastener of claim 16 wherein the
2 passage is closed at a distal end of the shaft.

1 19. The tissue fastener of claim 1 wherein the head
2 has a flat distal surface.

1 20. The tissue fastener of claim 1 wherein the head
2 has a toothed distal surface.

1 21. A tissue fastener comprising
2 a shaft,
3 a member disposed at a distal region of the shaft
4 for lodging the shaft within the tissue, and
5 a tissue engaging head disposed at a proximal end of
6 the shaft,
7 the shaft being relatively flexible between the
8 member and the head to render the head movable with respect
9 to the shaft.

1 22. The tissue fastener of claim 21 wherein the
2 shaft comprises a mesh extending between the member and the
3 head.

1 23. A tissue fastener comprising
2 a generally rigid shaft having a member disposed
3 thereon for lodging the shaft within the tissue,
4 a tissue engaging head disposed at a proximal end of
5 the shaft, and
6 a flexible joint between the shaft and the head to
7 render the head movable with respect to the shaft.

1 24. The tissue fastener of claim 23 wherein the
2 flexible joint comprises a breakable section of the shaft,
3 and further comprising a flexible member extending between
4 the shaft and the head past the breakable section.

1 25. The tissue fastener of claim 24 wherein the
2 breakable section is frangible.

1 26. The tissue fastener of claim 23 wherein the
2 flexible member comprises a plurality of filaments.

1 27. The tissue fastener of claim 23 wherein the
2 flexible member comprises a flexible tube.

1 28. Apparatus comprising
2 a tissue fastener comprising a shaft having a member
3 disposed thereon for lodging the shaft within the tissue,
4 and a tissue engaging head disposed at a proximal end of the
5 shaft, a region of the shaft being relatively flexible to
6 render the head movable with respect to the shaft, and
7 an insertion tool engageable with the tissue
8 fastener for inserting the tissue fastener into tissue.

1 29. The apparatus of claim 28 wherein
2 the member is disposed at a distal region of the
3 shaft for lodging the shaft within the tissue, the tissue
4 engaging head is disposed at a proximal end of the shaft,
5 and the shaft is relatively flexible between the member and
6 the head,
7 the insertion tool comprising an engagement portion
8 for engaging the member.

1 30. The apparatus of claim 29 wherein the head
2 includes an aperture, the engagement portion of the tool
3 being configured to extend through the aperture when engaged
4 with the member.

1 31. A method for tissue attachment comprising
2 providing a tissue fastener comprising a shaft
3 having a member disposed thereon for lodging the shaft
4 within the tissue, and a tissue engaging head disposed at a
5 proximal end of the shaft, a region of the shaft being
6 relatively flexible to render the head movable with respect
7 to the shaft, and
8 inserting the tissue fastener through a first tissue
9 and into a second tissue so that the member lodges within
10 the second tissue and the head urges the first tissue
11 against the second tissue.

1 32. The method of claim 31 wherein the first tissue
2 and the second tissue are regions of a common tissue
3 structure.

1 33. The method of claim 32 wherein the tissue
2 structure is cartilage and, prior to the inserting, the
3 first region is separated from the second region by a tear
4 in the cartilage.

1 34. The method of claim 31 wherein the first tissue
2 is soft tissue and the second tissue is bone.

1 35. A method for making a tissue fastener
2 comprising
3 providing a shaft having a member disposed thereon
4 for lodging the shaft within the tissue, and a tissue
5 engaging head disposed at a proximal end of the shaft, and
6 making a region of the shaft relatively flexible to
7 render the head movable with respect to the shaft.

1 36. The method of claim 35 further comprising
2 making the region comprise substantially an entire length of
3 the shaft.

1 37. The method of claim 36 further comprising
2 making the region from flexible material.

1 38. The method of claim 37 wherein the flexible
2 material comprises a mesh.

1 39. The method of claim 35 wherein the shaft
2 comprises a mesh material, and further comprising molding
3 the member and the head onto the mesh.

1 40. The method of claim 35 wherein the shaft
2 comprises generally rigid material, the making comprising
3 forming a flexible joint between the shaft and the head in
4 the region.

1 41. The method of claim 40 wherein the forming
2 comprises providing a breakable section of the shaft, and
3 further comprising extending a flexible member between the
4 shaft and the head past the breakable section.

1 42. The method of claim 41 further comprising
2 forming the breakable section to be frangible.

1 43. The method of claim 42 further comprising
2 defining the breakable section by at least one opening
3 disposed through a wall of the shaft.

1 44. The method of claim 41 wherein the flexible
2 member comprises a plurality of filaments.

1 45. The method of claim 41 wherein the flexible
2 member comprises a flexible tube.

1 46. The method of claim 41 further comprising
2 extending the flexible member along substantially an entire
3 length of the shaft.

1 47. The method of claim 41 further comprising
2 molding the shaft and the head as an integral unit, and
3 molding the flexible member therewithin.

1 48. The method of claim 35 further comprising
2 making the tissue fastener from polymeric material.

1 49. The method of claim 35 further comprising
2 making the tissue fastener from bioabsorbable material.

1 50. The method of claim 35 further comprising
2 providing the shaft with an interior passage, and forming an
3 opening in the head in communication with the passage.

1 51. The method of claim 50 further comprising
2 opening the passage at a distal end of the shaft.

1 52. The method of claim 50 further comprising
2 closing the passage at a distal end of the shaft.

1 53. The method of claim 35 further comprising
2 providing the head with a flat distal surface.

1 54. The method of claim 35 further comprising
2 providing the head with a toothed distal surface.